Napro-4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner	:	Not yet assigned
Group	:	Not yet assigned
Applicants	:	Eric B. Kmiec, Howard B. Gamper and Michael C. Rice
Serial No.	:	Not yet assigned
Filed	:	Concurrently herewith
For	:	TARGETED CHROMOSOMAL GENOMIC ALTERATIONS WITH MODIFIED SINGLE STRANDED OLIGONUCLEOTIDES

New York, New York
March 27, 2001

Honorable Commissioner of Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Prior to issuing a first Office Action in the above-identified application, please amend the application as follows:

IN THE SPECIFICATION

Please replace page 1 of the application with substitute pages 1 and 1A submitted herewith*.

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* An "Appendix of Amendments" is enclosed at Tab A showing the amendment to page 1. In the Appendix, the added portion is underscored.

REMARKS

Applicants have amended the specification to add reference to the priority claim which is also disclosed in the application filing documents. No new matter has been added. Entry of the amendment is requested.

Respectfully submitted,

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TARGETED CHROMOSOMAL GENOMIC ALTERATIONS WITH MODIFIED SINGLE STRANDED OLIGONUCLEOTIDES

This application claims benefit from United States Provisional Application No. 60/192,176, filed May 27, 2000; United States Provisional Application No. 60/192,179, filed May 27, 2000; United States Provisional Application No. 60/208,538, filed June 1, 2000; and United States Provisional Application No. 60/244,989, filed October 30, 2000.

Field Of The Invention

The technical field of the invention is oligonucleotide-directed repair or alteration of genetic information using novel chemically modified oligonucleotides. Such genetic information is preferably from a eukaryotic organism, i.e. a plant, animal or fungus.

Background Of The Invention

A number of methods have been developed specifically to alter the sequence of an isolated DNA in addition to methods to alter directly the genomic information of various plants, fungi and animals, including humans ("gene therapy"). The latter methods generally include the use of viral or plasmid vectors carrying nucleic acid sequences encoding partial or complete portions of a particular protein which is expressed in a cell or tissue to effect the alteration. The expression of the particular protein then results in the desired phenotype. For example, retroviral vectors containing a transgenic DNA sequence allowing for the production of a normal CFTR protein when administered to defective cells are described in U.S. Patent 5,240,846. Others have developed different "gene therapy vectors" which include, for example, portions of adenovirus (Ad) or adeno-associated virus (AAV), or other viruses. The virus portions used are often long terminal repeat sequences which are added to the ends of a transgene of choice along with other necessary control sequences which allow expression of the transgene. See U.S. Patents 5,700,470 and 5,139,941. Similar methods have been developed for use in plants. See, for example, U.S. Patent 4,459,355 which describes a method for transforming plants with a DNA vector and U.S. Patent 5,188,642 which describes cloning or expression vectors containing a transgenic DNA sequence which when expressed in plants confers resistance to the herbicide glyphosate. The use of such transgene vectors in any eukaryotic organism adds one or more exogenous copies of a gene, which

gene may be foreign to the host, in a usually random fashion at one or more integration sites of the organism's genome at some frequency. The gene which was originally present in the genome, which may be a normal allelic variant, mutated, defective, and/or functional, is retained in the genome of the host.

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